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THE VALUE ADDED BY SAWMILLING IN THE APPALACHIAN HILL COUNTRY OF OHIO AND KENTUCKY

Abstract. The difference between log costs and lumber values at 40 sawmills in the Appalachian hill country of Ohio and Kentucky provides an estimate of the value added by sawmill production. Based on these estimates, sawmilling contributed about $12.8 million to the region's economy in 1962.

The Appalachian hill country of eastern Kentucky and southeastern Ohio is an area rich in hardwood forest resources, but at the same time it is an area of low per-capita income. Sawmilling has continuously provided employment and income for many of the people of this area, yet there is little recorded evidence of its economic importance.

As a part of a study of the sawmill industry in the hill country of Kentucky and Ohio in 1960, we collected information about raw-material costs and product sales so we could estimate what contribution sawmilling makes to the area's economy (fig. 1). This report is based on the operations of 40 randomly selected mills in the area.

Figure 1.—The study area and location of the mills studied.

The mills investigated were actively engaged in lumber manufacture, and normally produced at least 500,000 board feet of lumber products annually. Based on the primary product manufactured, 23 of the 40 mills were classified as grade-lumber mills—those engaged in producing lumber for sale under National Hardwood Lumber Association rules; 9 were classified as pallet-lumber mills—those engaged mainly in producing pallet lumber, blocking, and crating; and 8 were classified as local-use mills —those manufacturing lumber principally for local construction contractors, farmers, and coal mines.

Cost of Raw Material

In 1960, aggregate log costs, mill tally f.o.b. the study mills, were approximately $2.06 million. Grade-lumber mills accounted for 73 percent of this total. Average log costs for the study mills amounted to $41 per thousand board feet at grade-lumber mills and $35 per thousand board feet at pallet-lumber mills and local-use mills.

Higher log costs occurred at grade-lumber mills mainly because mills producing grade lumber require higher quality logs than do pallet-lumber mills or those producing ungraded lumber for local use. Also, grade-lumber mills generally have greater plant investment than other mills and must buy logs throughout the year, even at higher prices, to insure a continuous supply of high-quality logs.

Product Sales

The 40 mills produced more than 52 million board feet of lumber, and grade lumber alone accounted for about 60 percent of the total volume (fig. 2). Product sales in 1960 amounted to about $4.38 million, an average of $84 per thousand board feet (table 1).

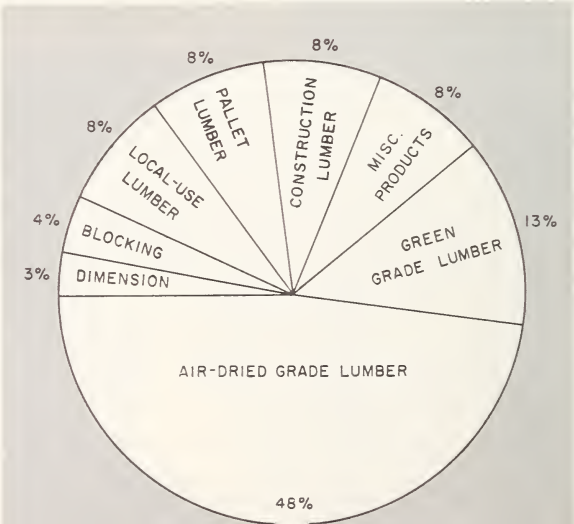

Figure 2.—Distribution of product sales volume.

Table 1.—*Average value per 1,000 board feet f.o.b. mill for products sold by the 40 sample mills*

Product	Average sale value per 1,000 board feet
Air-dry grade lumber	$101
Green grade lumber	78
Pallet lumber	52
Blocking	60
Dimension stock	57
Construction lumber	68
Local-use lumber	57
Others	84
All products	$ 84

The average value per thousand board feet for all lumber sold was higher at grade-lumber mills than at pallet-lumber mills and at local-use mills (table 2) because the former produced a greater volume of higher grade products. Even if we consider only lumber sales of the same grade, the average value per lumber grade was still higher at grade-lumber mills than at the other mills.

There are several reasons for this. Grade-mills usually sell a larger percentage of their lumber air-dry than do the other mills, and air-dry lumber normally commands a higher price than green lumber of similar grade. Also, the pallet-lumber mills and the local-use mills rarely sell

Table 2.—*Production, average product value, average log cost, and average value added through manufacture by mill type for the 40 sample mills*

Mill type	Mills	Lumber production (mill tally)	Average product value per 1,000 board feet	Average log cost f.o.b. mill per 1,000 board feet	Average value added per 1,000 board feet
	No.	*Million board feet*			
Grade-lumber	23	36.7	$90	$41	$49
Pallet-lumber	9	10.9	70[1]	35	35[2]
Local-use	8	4.7	67	35	32
All mills	40	52.3	$84	$40	$44

[1]Includes value of all products except finished pallets.

[2]The value added at pallet-lumber mills is calculated for sawmilling only; it does not include value added by fabrication of lumber into pallets.

directly in the grade-lumber market because they produce relatively small volumes of grade lumber. Their grade lumber is often sold to grade lumber mills or dealers who then resell it.

Value Added by Manufacture

Value added is generally defined as the difference between the cost of raw material and supplies purchased and the value of products sold. Such costs as electricity, fuels, and similar items are usually subtracted from product-sales value. In this study electricity and fuel costs are included in the value added by manufacture, but normally amount to only 2 to 3 percent of total costs.[1]

The total value added by lumber manufacture at the 40 study mills amounted to almost $2.32 million in 1960 for an average margin of $44 per thousand board feet to cover production costs and to provide mill management a return for services (table 2). The value added by manufacture at grade-lumber mills exceeded that at pallet-lumber and local-use mills. As noted earlier, average log costs at grade-lumber mills were higher than at pallet-lumber and local-use mills. However, these greater costs were more than offset by considerably higher product values, thus resulting in greater value added at grade mills.

Estimated total lumber production in the study area for 1962 was 291 million board feet.[2] Assuming that the $44 value added per thousand board feet by the study sawmills is representative of the region, in 1962 sawmilling would add about $12.8 million to the region's economy.

In terms of the volume processed and product value, grade lumber is the most important form of lumber sawed in the region. If we assume that the sample mills are representative of the region, grade-lumber mills are, in turn, the most important class of sawmills in the region in product value and value added by manufacture.

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[1]Whittaker, James C., and Orris D. McCauley, COSTS AND RETURNS FOR HARDWOOD LUMBER PRODUCTION IN THE APPALACHIAN REGION OF KENTUCKY AND OHIO. U.S. Forest Serv. Res. Paper NE-55. 16 pp., illus. NE. Forest Exp. Sta., Upper Darby, Pa. 1966.

[2]Estimates are based on U.S. Forest Service Resource Bulletins CS-3, CS-4, and CS-5, Central States Forest Experiment Station, Columbus, Ohio, for the Kentucky portion of the study area and on lumber production statistics published by the U.S. Department of Commerce and estimates from various other sources for the Ohio portion of study area.

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